

Summary -

It is observed that the data is about the prediction of fraudulent or not fraudulent. The data consist of equal number of fraudulent and non fraudulent count in the Class column. There are so many outliers in each column, we can't remove the outliers blindly so we will only use the model which are less sensitive to the outliers. The accuracy and other parameters obtained from different types of models are

Logistic regression -

All feature -

Classification Report:

	precision	recall	f1-score	support
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0	0.95	0.98	0.97	56750
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1	0.98	0.95	0.96	56976
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accuracy			0.97	113726
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macro avg	0.97	0.97	0.97	113726
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weighted avg	0.97	0.97	0.97	113726
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Lasso feature -

Accuracy: 0.9540298612454496

Classification Report:

	precision	recall	f1-score	support
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0	0.93	0.98	0.95	56750
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1	0.98	0.93	0.95	56976
---	------	------	------	-------

accuracy			0.95	113726
macro avg	0.95	0.95	0.95	113726
weighted avg	0.95	0.95	0.95	113726

RandomForestClassifier

All Feature -

Accuracy: 0.9998856901675958

Classification Report:

	precision	recall	f1-score
support			

0	1.00	1.00	1.00
56750			

1	1.00	1.00	1.00
56976			

accuracy			1.00
113726			

macro avg	1.00	1.00	1.00
113726			

weighted avg	1.00	1.00	1.00
113726			

Lasso Feature -

Accuracy: 0.9540298612454496

Classification Report:

	precision	recall	f1-score
support			

0	0.93	0.98	0.95	56750
1	0.98	0.93	0.95	56976

accuracy			0.95	113726
macro avg	0.95	0.95	0.95	113726
weighted avg	0.95	0.95	0.95	113726

KNN Model -

All feature -

Accuracy: 0.9998856901675958

Classification Report:

	precision	recall	f1-score	
support				

0	1.00	1.00	1.00	56750
1	1.00	1.00	1.00	56976

accuracy			1.00	113726
macro avg	1.00	1.00	1.00	113726
weighted avg	1.00	1.00	1.00	113726

Lasso feature -

Accuracy: 0.9973357015985791

Classification Report:

	precision	recall	f1-score	
support				

0	1.00	1.00	1.00	56750
1	1.00	1.00	1.00	56976

accuracy			1.00	113726
macro avg	1.00	1.00	1.00	113726

weighted avg	1.00	1.00	1.00	113726
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ANN - Deep Learning model

All feature -

precision	recall	f1-score	support	
False	0.98	0.99	0.99	56189
True	0.99	0.98	0.99	57537
accuracy			0.99	113726
macro avg	0.99	0.99	0.99	113726
weighted avg	0.99	0.99	0.99	113726

Lasso feature -

precision	recall	f1-score	support	
False	0.98	0.96	0.97	57794
True	0.96	0.98	0.97	55932
accuracy			0.97	113726
macro avg	0.97	0.97	0.97	113726
weighted avg	0.97	0.97	0.97	113726